

## General

### Guideline Title

Follow-up care for early-stage breast cancer.

### Bibliographic Source(s)

Alberta Provincial Breast Tumour Team. Follow-up care for early-stage breast cancer. Edmonton (Alberta): CancerControl Alberta; 2013 May. 26 p. (Clinical practice guideline; no. BR-013). [120 references]

### Guideline Status

This is the current release of the guideline.

## Recommendations

### Major Recommendations

1. Responsibilities of the physician and cancer care centre regarding follow-up care
  - Cancer surveillance is a shared responsibility. Following completion of active medical or radiation oncology treatment, patients may be discharged from the tertiary cancer center back to their primary healthcare provider for ongoing breast cancer surveillance.
  - Guidance on follow-up care and mechanisms for referral back to tertiary cancer care center should be made available, if required.
  - A written care plan recorded by a named health professional with copies sent to the healthcare provider and the patient should be encouraged.
  - Ideally a health practitioner (i.e., family physician, nurse practitioner, specialist from a breast or genetic clinic, etc.) with experience in clinical breast exam should provide follow-up care to patients who have been treated for early-stage breast cancer.
2. Investigations and surveillance for the follow-up of all patients who have completed active medical or radiation oncology treatment for early-stage breast cancer
  - Self-examination:
    - Patients may perform self-examination of their breasts and armpits every month.
  - Clinical examination:
    - Components: at minimum, history and physical examination of the breast(s), chest wall, and supraclavicular and axillary nodes, auscultation of the chest, and palpation of the liver.
    - Frequency: every 6 months for 2 years, then annually.
  - Imaging tests (for patients with intact breasts) (Note: reconstructed breasts [autologous tissue or implants] do not require any form of imaging surveillance):
    - Diagnostic mammography: annually, performed at an accredited mammography facility.
    - Other routine investigations (e.g., bone scan, ultrasound of the abdomen, chest x-ray, breast magnetic resonance imaging)

[MRI], tumour markers, and laboratory tests, etc.) are generally not recommended for asymptomatic patients.

### 3. Signs and symptoms to look for regarding a breast cancer recurrence

- Patients should be counseled on symptoms of potential recurrence (i.e., new lumps, bone pain, chest pain, persistent headaches, dyspnea, or abdominal pain).
- Patients should be informed on the use/limitations of monthly breast self-exam.
- The table below describes signs and symptoms that may suggest recurrence. Patients presenting with any of these symptoms should undergo the appropriate investigations, as described, with a copy of the results to be forwarded to the cancer centre.

Table. Symptoms and Appropriate Investigations for a Local Recurrence or Metastatic Disease

Symptom	Action/Investigation
New mass in breast	Mammography +/- ultrasound (+/- biopsy)
New suspicious rash or nodule on chest wall	Refer to surgeon or interventional radiology for biopsy
New palpable lymphadenopathy	Refer to surgeon or interventional radiology for biopsy
New persistent bone pain	Plain x-ray of affected site(s) and bone scan
New persistent cough or dyspnea	Chest x-ray and/or computed tomography (CT) chest
New hepatomegaly or right upper quadrant (RUQ) abdominal pain	Ultrasound and/or CT scan of abdomen and liver enzymes
New onset seizures	Seizure management (as required) and CT/magnetic resonance imaging (MRI) brain
Back pain with limb weakness, change in sensation, change in reflexes, or loss of bowel/bladder control	MRI spine
New persistent headache or new concerning neurologic deficits	CT/MRI brain
Altered level of consciousness, nausea, vomiting, and/or pain with symptomatic hypercalcemia	Intravenous (IV) hydration and bisphosphonate therapy

- If at any time the physician has concerns regarding possible local or metastatic recurrence and requires an urgent referral, the appointment booking office should be contacted to arrange to see the patient. Should the physician have any specific questions, one of the oncologists in radiation oncology or medical oncology will be available to discuss the patient.

### 4. Potential complications from treatment

#### *General Considerations for All Patients*

- For any patient with a history of previous breast cancer, the use of exogenous estrogens (such as oral contraceptives or hormone replacement therapy) is generally contraindicated.
- Raloxifene is not recommended for treatment of osteoporosis in patients with a previous breast cancer diagnosis while on adjuvant endocrine therapy (e.g., tamoxifen or aromatase inhibitors).

#### *Endocrine Therapy*

- Adherence to adjuvant endocrine therapy should be assessed and encouraged. *The referring physician may write the prescription for the patient, to be dispensed by the cancer centre pharmacy or fax the prescription the cancer center for it to be mailed to the patient.*
- Patients receiving tamoxifen are at a slightly increased risk of deep vein thrombosis, strokes, and cataracts; investigations should be performed, as per signs and symptoms (e.g., sudden swelling or pain in an arm or leg, shortness of breath, visual changes, etc.).
  - More common side effects of tamoxifen include hot flashes and vaginal discharge.
  - In patients with an intact uterus, monitoring for endometrial cancer should include a gynecologic assessment, in addition to clinical examination.
  - Patients experiencing abnormal vaginal bleeding should be referred to a gynecologist.
- Patients receiving aromatase inhibitors (i.e., anastrozole, exemestane, letrozole) may be at increased risk of joint pain and joint stiffness (especially among those with history of taxane use), bone pain, hot flashes, feeling tired, muscle pain, and insomnia.
  - Patients at risk for developing osteopenia and/or osteoporosis should have a baseline and annual bone density assessment

(dual-energy x-ray absorptiometry [DEXA] scan) performed.

- Osteoporosis should be treated according to the 2010 Canadian Osteoporosis Guidelines (Papaioannou et al., 2010).
- Patients at risk of fracture are recommended to:
  - Perform regular weight-bearing, balance and strengthening exercises
  - Practice smoking cessation
  - Optimize total calcium (dietary and supplements): 1000–1200 mg per day if postmenopausal (preferably from dietary/food sources)
  - Optimize total vitamin D (supplements): vitamin D: 1000–2000 international units (IU) per day (Papaioannou et al., 2010)
- Raloxifene (Evista®) should not be prescribed for osteoporosis treatment in patients with a previous breast cancer diagnosis. In cases where osteopenia/osteoporosis treatment is indicated, consideration for an alternate bone targeted agent (e.g., bisphosphonate or RANK-ligand inhibitor) should be used instead.

### *Fatigue*

- Long-term follow-up care is important for patients after cancer therapy. Fatigue may be caused by anemia, depression, anxiety, pain, dehydration, nutritional deficiencies, sedating medications, and therapies that may have poorly tolerated side effects (National Cancer Institute, 2011). A history of symptoms should be taken to rule out physical causes.
- Psychostimulant drugs, treatment for anemia, exercise, cognitive behavior therapy, activity and rest, or patient education may help patients alleviate the symptoms of fatigue.

### *Peripheral Neuropathy*

- Chemotherapy may cause damage to nerves, resulting in neuropathy. Symptoms vary depending on the type of chemotherapy and whether sensory or motor nerves are involved, but can include paresthesias, numbness, imbalance, pain, and weakness of muscles in the hands and feet (Emery et al., 2001; Reyes-Gibby et al., 2009).
- Work-up should include history and physical exam, as well as neurological exam (e.g., reflexes, muscle strength and tone, sensations, posture, and coordination). Electromyography, nerve biopsy, and computed tomography (CT) or MRI imaging may be indicated (Mayo Clinic, "Diseases," 2011).
- Treatments may include pain relievers (i.e., acetaminophen, ibuprofen, opiates), anti-seizure drugs (i.e., gabapentin, topiramate, pregabalin, carbamazepine, phenytoin), lidocaine (patch), antidepressants (i.e., amitriptyline, nortriptyline) or transcutaneous electrical nerve stimulation (Mayo Clinic, "Diseases," 2011).
- Alternative techniques, such as acupuncture, capsaicin cream, alpha-lipoic acid, and biofeedback have been used to manage the symptoms of peripheral neuropathy; however, these methods have not been tested rigorously.

### *Lymphedema*

- Lymphedema or swelling of the arm is a possible complication of breast cancer treatment. It occurs more frequently with mastectomy, axillary lymph node dissection, and radiation therapy.
- Treatments may include the following:
  - Manual lymphatic drainage therapy: a technique that uses massage to move lymph fluid out of the affected limb to functioning lymph nodes for drainage; this technique may be contraindicated in individuals with a skin infection, active cancer, blood clots, and congestive heart failure, as well as on areas of the body that have received radiotherapy (Mayo Clinic, "Lymphedema," 2011).
  - Physical therapy or exercise: a technique that uses light muscle contractions of the affected limb to facilitate the drainage of lymph fluid; strenuous exercises should be avoided.
  - Compression therapy: a technique that uses garments, bandages, or gradient pumps to compress the affected limb and move lymph fluid towards the torso (Mayo Clinic, "Lymphedema," 2011). Compression therapy may be combined with manual lymphatic drainage and/or physical therapy.
  - Surgery: several procedures, such as lymphatic venous anastomosis, vascularized lymph node transfer, and lymphatic liposuction can be performed to reconstruct the lymphatic vessels or remove lymphedematous tissue.
  - Low level laser therapy (LLLT): infra-red light is used to displace nitric oxide from the cells and restore the production of cellular energy (adenosine triphosphate [ATP]), allowing tissue to repair; LLLT has been approved by Health Canada, but is still considered experimental.
- Programs and services are available in Calgary and Edmonton:
  - Calgary: [www.albertahealthservices.ca/services.asp?pid=service&rid=1026510](http://www.albertahealthservices.ca/services.asp?pid=service&rid=1026510)
  - Edmonton: [www.lymphovenous-canada.ca/lymphedemaclinics.htm](http://www.lymphovenous-canada.ca/lymphedemaclinics.htm)

### *Cardiac Dysfunction*

- Cardiac dysfunction can occur in some patients undergoing treatment with anthracycline-based chemotherapy or trastuzumab.
- If patient is symptomatic or has clinical signs, evaluate further with electrocardiogram (ECG) and multigated acquisition scan (MUGA) or echocardiogram and refer to cardiology if significant abnormalities are noted.

#### *Acute Leukemia/Myelodysplasia*

- In some patients undergoing treatment with chemotherapy, perform a complete blood count (CBC) + differential (peripheral blood smear); refer to hematology if significant persistent cytopenias or blast cells are noted.

#### *Support Resources & Recommendations*

- Patients may experience fear of recurrence, stress over financial, family, or work issues, depression and anxiety, anger over their experience with cancer, or loneliness after support from caregivers is no longer needed. Patients should be assessed for emotional health issues (Waldemar, 2007). Patients often struggle with emotional and psychological concerns post-treatment. Post-treatment adjustment should therefore be assessed, and if problems are identified, treatment and/or referral to an appropriately trained professional should be ensured.
- General support resources:
  - CancerBridges – [www.cancerbridges.ca](http://www.cancerbridges.ca)
  - Canadian Cancer Society – <http://www.cancer.ca>  or 1-888-939-3333.
  - Wellspring – [www.wellspring.ca](http://www.wellspring.ca)
  - Alberta Health Services – <http://www.albertahealthservices.ca> 
    - Click: *Health Information > Diseases & Conditions > Cancer*
  - American Society for Clinical Oncology (patient site): <http://www.cancer.net>
- Counseling and support:
  - Psychosocial support should be encouraged and facilitated, as needed. Some patients may benefit by participating in educational, support, or counseling programs, available through the cancer centres and in the community:
    - Calgary: call 403-355-3207; or visit [www.albertahealthservices.ca/services.asp?pid=service&rid=1047804](http://www.albertahealthservices.ca/services.asp?pid=service&rid=1047804)
    - Edmonton: call 780-643-4303; 780-643-4304 or visit [www.albertahealthservices.ca/services.asp?pid=service&rid=1053260](http://www.albertahealthservices.ca/services.asp?pid=service&rid=1053260) ; [www.albertahealthservices.ca/services.asp?pid=service&rid=1003332](http://www.albertahealthservices.ca/services.asp?pid=service&rid=1003332)
    - Peer Support via Telephone: [www.cancer.ca/Alberta-NWT/Support%20Services/AB-Peer%20support%20programs/AB-CancerConnection.aspx](http://www.cancer.ca/Alberta-NWT/Support%20Services/AB-Peer%20support%20programs/AB-CancerConnection.aspx)

#### *Healthy Lifestyle*

- According to the American Institute for Cancer Research, once treatment for cancer has been completed, and unless otherwise advised, the patient should aim to follow cancer prevention recommendations for diet, physical activity, and healthy weight maintenance (American Institute for Cancer Research, 2011).

Lifestyle Factor	Recommendations
Body weight (Han et al., 1995; Lean, Han, & Morrison, 1995)	<p>Body mass index (BMI): 18.5–25 kg/mg<sup>2</sup></p> <p>Waist circumference: less than 80 cm for women and less than 94 cm for men.</p>
Physical activity (Canadian Cancer Society, 2011; Beasley et al., 2012; Rock et al., 2012; Kushi et al., 2012)	Be active 2.5 hours/week, focusing on moderate-vigorous activity spread throughout week.
Diet (World Cancer Research Fund/American Institute for Cancer Research, 2007)	<p>Follow cancer prevention recommendations from the American Institute for Cancer Research:</p> <ul style="list-style-type: none"> <li>• Avoid sugary drinks. Limit consumption of energy-dense foods.</li> <li>• Eat more of a variety of vegetables, fruits, whole grains and legumes such as beans.</li> <li>• Limit consumption of red meats (beef, pork and lamb) and avoid processed meats.</li> </ul>

Lifestyle Factor	Recommendations
	<ul style="list-style-type: none"> <li>Limit consumption of salty foods and foods processed with salt.</li> </ul>
Dietary Supplements/Bone Health (Hanley et al., 2010; Institute for Clinical Systems Improvement, 2011; National Guideline Clearinghouse, 2012)	<p>Vitamin D: 1000–2000 IU per day.</p> <p>Calcium: 1000–1200 mg per day if post-menopausal (preferably from dietary/food sources).</p>
Alcohol (Bagnardi et al., 2013; Seitz et al., 2012)	Ideally none or limit consumption (<3 drinks/week).
Smoking	<p>Practice smoking cessation. For help contact Alberta Quits 1-877-710-QUIT (7848) or <a href="http://www.albertaquits.ca">www.albertaquits.ca</a></p> <div></div>

### *Sexual Functioning/Relationships*

- **Sexual Health:** Common issues for patients include intimacy concerns, painful intercourse or loss of sensation, symptoms of menopause and loss of desire to have sex (Kedde et al., 2013; Panjari, Bell, & Davis, 2011). Sexual functioning should be discussed with the patient at follow-up visits.
  - Menopause symptoms: Endocrine therapies commonly cause menopausal symptoms and chemotherapy may lead to early menopause. Hot flashes which interfere with sleep and daily function can be managed with non-hormone therapies (e.g., venlafaxine or gabapentin). Vaginal dryness can be managed with a dual purpose vaginal moisturizer and lubricant (e.g., Replens®). If non-hormonal therapies do not help, vaginal estrogen (Estring®, Vagifem®) can be considered. Exogenous hormonal therapy is generally contraindicated. For refractory vaginal symptoms, referral to gynecology should be considered.
  - Self-image: For some women, breasts are an important part of their self-image. If they are concerned about how a lumpectomy or mastectomy has changed their body, they may be interested in more information regarding a breast prosthesis or breast reconstruction. Psychological counseling can also be helpful for improving body image satisfaction, addressing relationship concerns and reducing sexual dysfunction.
- **Family Planning:** Pregnancy while on endocrine therapy is contraindicated. The absence of regular menses does not equate to menopause in all cases. Non-hormonal contraception is generally recommended. There is an increased risk of sub-fertility/infertility and premature menopause in women who have had previous chemotherapy. There is no evidence that future pregnancy adversely affects recurrence or survival; there is no medical reason to terminate a pregnancy in absence of evidence of relapse.

## Clinical Algorithm(s)

None provided

## Scope

## Disease/Condition(s)

Early-stage breast cancer

## Guideline Category

Evaluation

Management

Prevention

Treatment

## Clinical Specialty

Family Practice

Internal Medicine

Obstetrics and Gynecology

Oncology

Preventive Medicine

Psychology

Radiation Oncology

Radiology

Surgery

## Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Psychologists/Non-physician Behavioral Health Clinicians

## Guideline Objective(s)

To provide evidence-based strategies for the care of patients who have been discharged to their referring physician

## Target Population

Patients who have completed active medical or radiation oncology treatment for early-stage breast cancer and have been discharged by the cancer care centre for care by the referring physician

## Interventions and Practices Considered

1. Responsibilities of the physician and cancer care centre regarding follow-up care
2. Investigations and surveillance for patient follow-up: self-examination of breasts, clinical examination of breasts, imaging tests (mammography, other investigations)
3. Signs and symptoms to look for regarding breast cancer recurrence
4. Counseling patients on potential complications of treatment, including use of endocrine therapy and avoiding exogenous estrogens
5. Preventing and treating osteoporosis, fatigue, peripheral edema, lymphedema, cardiac dysfunction, acute leukemia/myelodysplasia
6. Assessment of patients for emotional/psychological health issues and offering resources and support
7. Encouraging health lifestyle for cancer prevention (diet, physical activity, healthy weight, bone health, limiting alcohol consumption, smoking cessation)
8. Counseling patients on sexual health and family planning issues

## Major Outcomes Considered

- Survival rate (disease-free, overall)
- Quality of life
- Recurrence rate
- Complication rate
- Treatment-related adverse effects
- Patient satisfaction
- Cost-effectiveness

## Methodology

### Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

### Description of Methods Used to Collect/Select the Evidence

Research Questions

Specific research questions to be addressed by the guideline document were formulated by the guideline lead(s) and Knowledge Management (KM) Specialist using the PICO question format (patient or population, intervention, comparisons, outcomes).

Guideline Questions

1. What investigations (i.e., tests and exams) constitute follow-up care for patients who have completed active medical or radiation oncology treatment for early-stage breast cancer? How often should these investigations be performed?
2. What are the responsibilities of the physician and cancer care centre, regarding follow-up care for patients with early-stage breast cancer?
3. Are there any complications, from treatment with surgery, chemotherapy, radiotherapy, endocrine therapy, and/or biologic therapy, of which the physician should be aware? What are the symptoms of these complications and how are they managed?
4. What are the signs and symptoms to look for regarding a breast cancer recurrence?
5. What are the more common survivorship concerns and challenges of patients who have been treated for early-stage breast cancer? How can survivorship be improved for these patients? What commendable supports are available in the community or on the internet?

Search Strategy

A systematic search for relevant literature related to breast cancer follow-up was conducted of MEDLINE and EMBASE. The search included the terms "follow-up" or "surveillance" or "discharge" or "investigation" or "clinical examination" AND "breast neoplasm". The MEDLINE and EMBASE search was limited to clinical trials and meta-analyses published in the English language during the previous ten years only (e.g., 2001 to September 2011); a total of 3,812 citations were returned, of which 29 were deemed relevant (i.e., presented data on delivery of follow-up or investigations for follow-up).

A second search was conducted of specific concerns related to follow-up. The MEDLINE and EMBASE databases were searched using the following terms: "lymphedema" or "weight management" or "bone pain" or "sexual functioning" or "psychosocial health" or "fatigue" AND "breast cancer follow-up" and limited to clinical trials and meta-analyses published in the English language during the previous ten years only (e.g., 2001 to September 2011).

The search strategies were repeated just prior to publication of the guideline and covered the period of time from September 2011 through April 2013. An additional 778 studies were identified; of these, 12 were deemed relevant and included in the full literature review.

In addition, the Cochrane Library, Search Standards and Guidelines Evidence (SAGE) database available at [www.Cancerview.ca](http://www.Cancerview.ca)

, and the National Guideline Clearinghouse were searched for guidelines and systematic reviews related to breast cancer follow-up. A total of six clinical practice guidelines and two systematic reviews were deemed relevant.

### Number of Source Documents

Refer to the "Description of Methods Used to Collect/Select the Evidence" field.

## Methods Used to Assess the Quality and Strength of the Evidence

Not stated

## Rating Scheme for the Strength of the Evidence

Not applicable

## Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

## Description of the Methods Used to Analyze the Evidence

Evidence was selected and reviewed by a working group comprised of members from the Alberta Provincial Breast Tumour Team and a Knowledge Management (KM) Specialist from the Guideline Utilization Resource Unit (GURU). A detailed description of the methodology followed during the guideline development process can be found in the [Guideline Utilization Resource Unit Handbook](#)  (see the "Availability of Companion Documents" field).

Evidence Tables

Evidence tables containing the first author, year of publication, patient group/stage of disease, methodology, and main outcomes of interest are assembled using the studies identified in the literature search. Existing guidelines on the topic are assessed by the KM Specialist using portions of the Appraisal of Guidelines Research and Evaluation (AGREE) II instrument (<http://www.agreetrust.org> ) and those meeting the minimum requirements are included in the evidence document. Due to limited resources, GURU does not regularly employ the use of multiple reviewers to rank the level of evidence; rather, the methodology portion of the evidence table contains the pertinent information required for the reader to judge for himself the quality of the studies.

A summary of the clinical practice guidelines is included in the Appendix in the original guideline document.

## Methods Used to Formulate the Recommendations

Expert Consensus

## Description of Methods Used to Formulate the Recommendations

The guideline development panel, including medical oncologists, radiation oncologists, and breast surgeons, originally developed a patient discharge letter to be sent to patients' referring physicians regarding aspects of follow-up care. Recommendations contained in the physician letter were based largely on the 2005 Canadian Medical Association guidelines on follow-up after treatment for breast cancer, as well as other available guidelines. Subsequently, the Alberta Provincial Breast Tumour Team agreed to develop a formal consensus guideline, with updated recommendations based on more recent evidence from the literature. After a review of existing guidelines, consensus recommendations were agreed upon.

Formulating Recommendations

The working group members formulated the guideline recommendations based on the evidence synthesized by the Knowledge Management (KM) Specialist during the planning process, blended with expert clinical interpretation of the evidence. As detailed in the [Guideline Utilization Resource Unit Handbook](#)  (see the "Availability of Companion Documents" field), the working group members may decide to adopt the recommendations of another institution without any revisions, adapt the recommendations of another institution or institutions to better

reflect local practices, or develop their own set of recommendations by adapting some, but not all, recommendations from different guidelines.

The degree to which a recommendation is based on expert opinion of the working group and/or the Provincial Tumour Team members is explicitly stated in the guideline recommendations. Similar to the American Society of Clinical Oncology (ASCO) methodology for formulating guideline recommendations, the Guideline Utilization Resource Unit (GURU) does not use formal rating schemes for describing the strength of the recommendations, but rather describes, in conventional and explicit language, the type and quality of the research and existing guidelines that were taken into consideration when formulating the recommendations.

## Rating Scheme for the Strength of the Recommendations

Not applicable

## Cost Analysis

- As compared to physician-led follow-up, nurse-led follow-up has demonstrated high patient satisfaction, no differences in terms of time to recurrence or death, and greater cost-effectiveness.
- A cost analysis that included 472 breast cancer patients without distant metastasis after primary treatment and compared four strategies (e.g., three versus six months and routine versus clinical examinations) showed, after a mean follow-up of 4.2 years, that there was no difference in disease-free or overall survival, regardless of strategy. Cost, however, was more than two times greater for more frequent routine follow-up.

## Method of Guideline Validation

Internal Peer Review

## Description of Method of Guideline Validation

This guideline was reviewed and endorsed by the Alberta Provincial Breast Tumour Team.

When the draft guideline document has been completed, revised, and reviewed by the Knowledge Management Specialist and the working group members, it is sent to all members of the Provincial Tumour Team for review and comment. This step ensures that those intended to use the guideline have the opportunity to review the document and identify potential difficulties for implementation before the guideline is finalized.

Depending on the size of the document, and the number of people it is sent to for review, a deadline of one to two weeks will usually be given to submit any feedback. Ideally, this review will occur prior to the annual Provincial Tumour Team meeting, and a discussion of the proposed edits will take place at the meeting. The working group members will then make final revisions to the document based on the received feedback, as appropriate. Once the guideline is finalized, it will be officially endorsed by the Provincial Tumour Team Lead and the Executive Director of Provincial Tumour Programs.

## Evidence Supporting the Recommendations

## References Supporting the Recommendations

American Institute for Cancer Research. Second Expert Report, food, nutrition, physical activity, and the prevention of cancer: a global perspective. [internet]. [accessed 2011 Sep 07].

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## Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

## Benefits/Harms of Implementing the Guideline Recommendations

### Potential Benefits

Appropriate follow-up care for patients with early-stage breast cancer to detect recurrent or new breast cancer, to provide patient support (i.e., patient education, reassurance, and psychosocial support), and to monitor the efficacy and side effects of any adjuvant therapy

### Potential Harms

- Patients receiving tamoxifen are at a slightly increased risk of deep vein thrombosis, strokes, and cataracts; investigations should be performed, as per signs and symptoms (e.g., sudden swelling or pain in an arm or leg, shortness of breath, visual changes, etc.). More common side effects of tamoxifen include hot flashes and vaginal discharge. Monitoring for endometrial cancer should include a gynecologic assessment, in addition to clinical examination. Patients experiencing abnormal vaginal bleeding should be referred to a gynecologist.
- Patients receiving aromatase inhibitors (i.e., anastrozole, exemestane, letrozole) may be at increased risk of joint pain and joint stiffness (especially among those with history of taxane use), bone pain, hot flashes, feeling tired, muscle pain, and insomnia. These patients are also at risk for osteoporosis.
- Chemotherapy may cause damage to nerves, resulting in neuropathy.
- Lymphedema or swelling of the arm is a possible complication of breast cancer treatment.
- Cardiac dysfunction can occur in some patients undergoing treatment with anthracycline-based chemotherapy or trastuzumab.
- Patients often struggle with emotional and psychological concerns post-treatment.
- There is an increased risk of sub-fertility/infertility and premature menopause in women who have had previous chemotherapy.

## Contraindications

## Contraindications

- For any patient with a history of previous breast cancer, the use of exogenous estrogens (such as oral contraceptives or hormone replacement therapy) is generally contraindicated.
- Manual lymphatic drainage therapy (a technique that uses massage to move lymph fluid out of the affected limb to functioning lymph nodes for drainage) may be contraindicated in individuals with a skin infection, active cancer, blood clots, and congestive heart failure, as well as on areas of the body that have received radiotherapy.
- Exogenous hormonal therapy is generally contraindicated for menopause symptoms.
- Pregnancy while on endocrine therapy is contraindicated.
- Raloxifene (Evista®) should not be prescribed for osteoporosis treatment in patients with a previous breast cancer diagnosis.

## Qualifying Statements

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The recommendations contained in this guideline are a consensus of the Alberta Provincial Breast Tumour Team and are a synthesis of currently accepted approaches to management, derived from a review of relevant scientific literature. Clinicians applying these guidelines should, in consultation with the patient, use independent medical judgment in the context of individual clinical circumstances to direct care.

## Implementation of the Guideline

### Description of Implementation Strategy

- Present the guideline at the local and provincial tumour team meetings and weekly rounds.
- Post the guideline on the Alberta Health Services Web site.
- Send an electronic notification of the new guideline to all members of CancerControl Alberta.

## Institute of Medicine (IOM) National Healthcare Quality Report Categories

### IOM Care Need

Living with Illness

Staying Healthy

### IOM Domain

Effectiveness

Patient-centeredness

## Identifying Information and Availability

### Bibliographic Source(s)

## Adaptation

Not applicable: The guideline was not adapted from another source.

## Date Released

2013 May

## Guideline Developer(s)

CancerControl Alberta - State/Local Government Agency [Non-U.S.]

## Source(s) of Funding

CancerControl Alberta

## Guideline Committee

Alberta Provincial Breast Tumour Team

## Composition of Group That Authored the Guideline

Members of the Alberta Provincial Breast Tumour Team include medical oncologists, radiation oncologists, surgeons, nurses, pathologists, and pharmacists.

## Financial Disclosures/Conflicts of Interest

Participation of members of the Alberta Provincial Breast Tumour Team in the development of this guideline has been voluntary and the authors have not been remunerated for their contributions. There was no direct industry involvement in the development or dissemination of this guideline. CancerControl Alberta recognizes that although industry support of research, education and other areas is necessary in order to advance patient care, such support may lead to potential conflicts of interest. Some members of the Alberta Provincial Breast Tumour Team are involved in research funded by industry or have other such potential conflicts of interest. However the developers of this guideline are satisfied it was developed in an unbiased manner.

## Guideline Status

This is the current release of the guideline.

## Guideline Availability

Electronic copies: Available from the [Alberta Health Services Web site](#) .

## Availability of Companion Documents

The following is available:

- Guideline utilization resource unit handbook. Edmonton (Alberta): CancerControl Alberta; 2013 Jan. 5 p. Electronic copies: Available from the [Alberta Health Services Web site](#) .

## Patient Resources

None available

## NGC Status

This NGC summary was completed by ECRI Institute on August 12, 2014. The information was verified by the guideline developer on September 22, 2014. This summary was updated by ECRI Institute on September 21, 2015 following the U.S. Food and Drug Administration advisory on non-aspirin nonsteroidal anti-inflammatory drugs (NSAIDs).

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